

El Niño Bulletin #1

July 11, 2002

There has been some uncertainty as to whether or not an El Niño event will develop this year, based on the confounding features of two other cycles, the Madden-Julian and the Pacific decadal oscillations. However, since May 2002, Pacific Ocean surface temperatures have shown further warming, and are, as of mid-June, 1°C above normal across much of the central and eastern basin. While there is still some ambiguity as to an event's occurrence, measurements are now indicating that the atmosphere has begun to respond to the sea-surface warming. Thus, there is a growing consensus among climate forecasters that there will indeed be a mild to moderate El Niño late this year and into next.

It is premature conclude that an El Niño event late this year and into next would be catastrophic, for the impacts of El Niño are very much a function both of the event's amplitude and other complementary/antagonistic atmospheric or oceanic oscillations. In general, strong El Niños have markedly more severe climate repercussions than do weak or moderate events. However, Indonesia is at the epicenter of *any* El Niño event, because one of its rainfall-generating mechanisms (the upward-moving leg of the atmosphere's Hadley Cell vertical circulation) moves eastward to the central Pacific during El Niño events. Based on the effects of the strong El Niño of 1997-98, this impending event could have profound effects on the yields of smallholder farmers across the country, particularly in eastern Indonesia.

Regardless of the event's magnitude, or even whether or not there is an El Niño later this year, the island of Timor and the smaller islands surrounding it in the districts of southwest Maluku and easternmost NTT are already affected by drought (see Figure 1), with last year's rainy season around 75% or less of "normal." These islands are always the driest area of the country, and are recognized as having transitory food insecurity during "normal" years. They are more vulnerable now because of the drought, and a recent assessment by an INGO consortium suggests near-crisis levels of malnutrition among under-5s in the native population of parts of West Timor. In addition to Timor and its vicinity, agricultural drought is currently underway in northern Sulawesi. Subnormal rains also fell on eastern Java and Madura during the last rainy season, but effects are not critical.

Of substantial significance is that the 2001 May – October dry season was also sub-optimal across many parts of the country for rainfed crops, in particular for one of the primary staple foods, maize. This is shown in Figure 2. Noteworthy is the indication of maize failure across much of central and eastern Java, as well as the Lesser Sunda Islands. Coupled with the reduced 2001-02 rainy season in many parts of the country (Figure 1), we can conclude that especially in eastern NTT and environs, there is little doubt that the general population is indeed vulnerable.

WFP is closely monitoring rainfall in near-real-time across the archipelago in collaboration with NASA, using output from an algorithm combining measurements from several satellites and ground stations. Such outputs are as in the figures below.

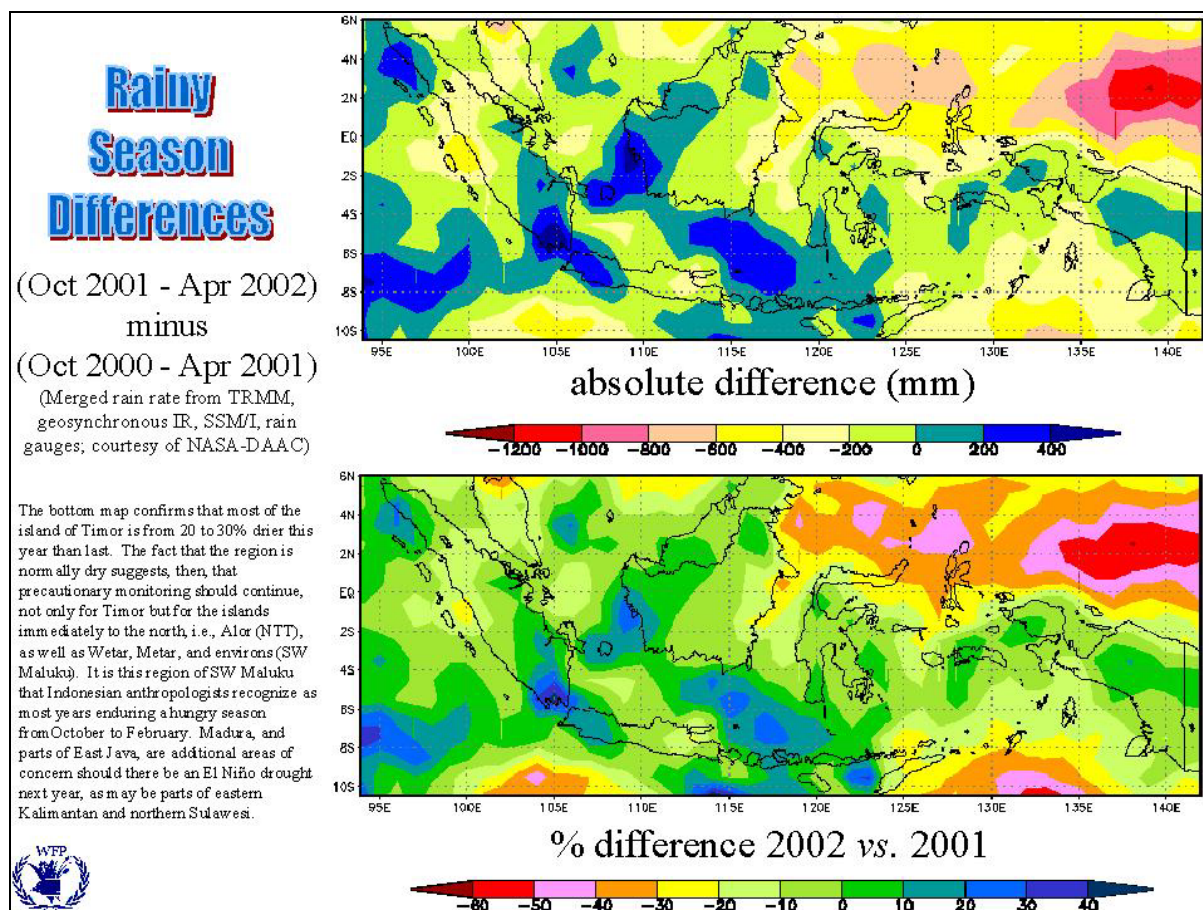


Figure 1. Comparison of the 2001-02 rainy season with that of 2000-01.

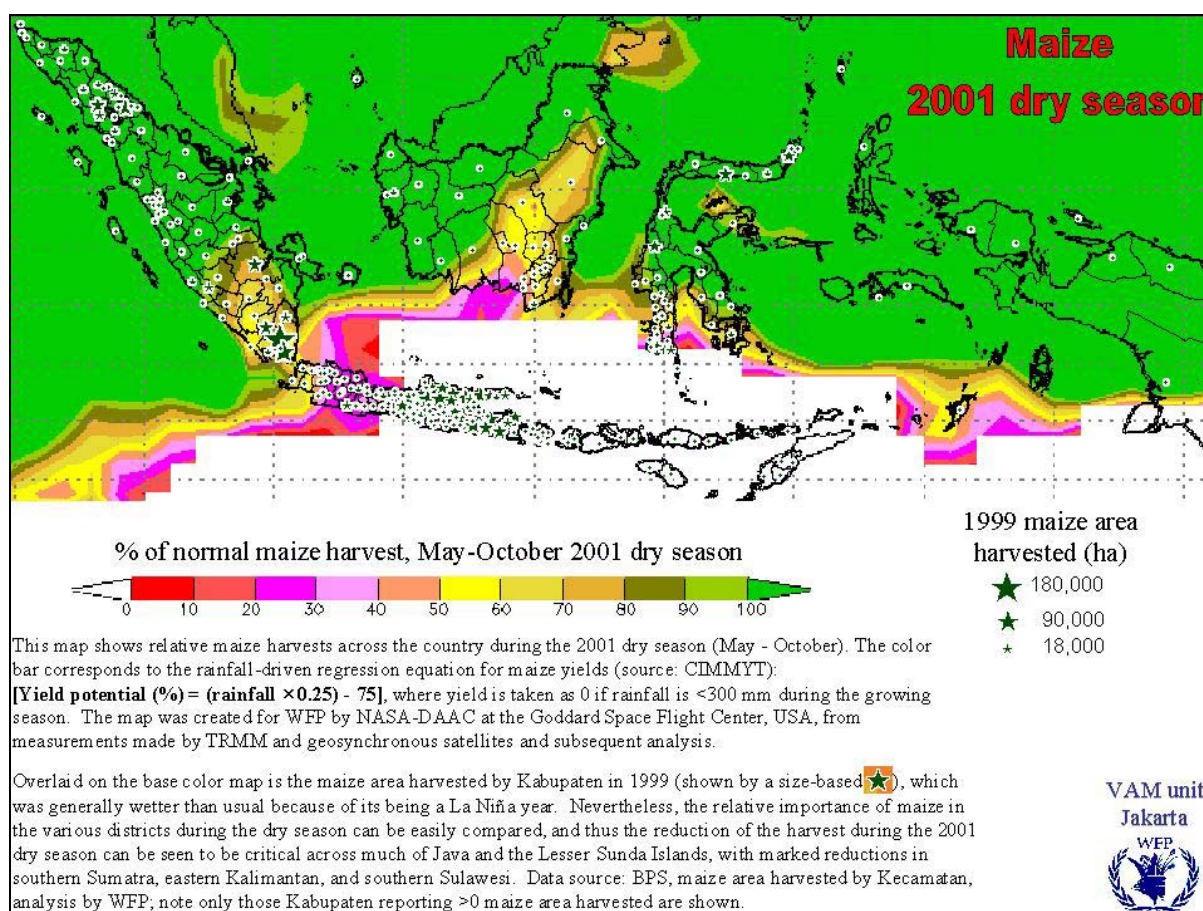


Figure 2. 2001 dry season potential maize yields.

The droughts reported in the press recently are somewhat sensationalist. This is, of course, normally the dry season in Indonesia, and as such, significant rainfall is generally a periodic exception, contrasting sharply with the near-daily storms associated with the wet season. Not only has rainfall in the past few days alleviated some of the water stress, but it must also be very closely borne in mind that widespread deforestation is much more likely at this time to be the cause of irrigation shortfalls than a lack of rain *per se* (Figure 3).

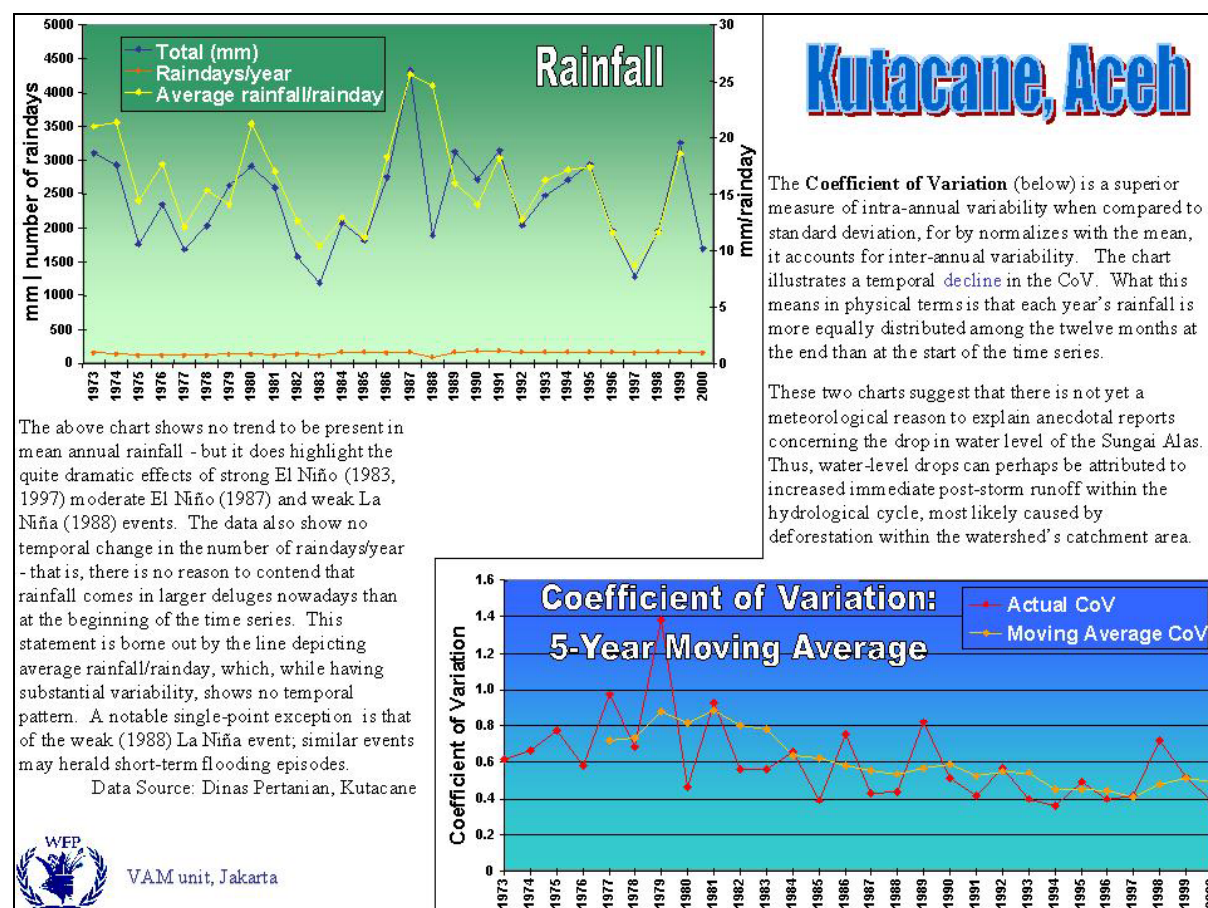


Figure 3. Rainfall analysis following farmers' complaints that irrigation fed by Alas river is in decline. The Alas watershed is within the nominally protected Leuser National Park, where illegal logging is reportedly rampant.

As this year's dry season and next year's rainy season develop, WFP will continue to monitor the situation closely, and will have near-real-time knowledge of how extensive the droughts will be across the country.

The next update to this periodic Bulletin will be within the next fortnight, once NASA has completed archiving June 2002 data. At that time, WFP will distribute charts showing the progression of this year's dry season for the months of May and June.

Questions arising from this Bulletin should be directed to Lenard.Milich@wfp.org.